

Organization of PJM States, Inc.
Request for Proposal:

Expert Consultation on PJM Effective Load Carrying Capability
(ELCC)

Issue Date:

Monday, November 1, 2021

Submission Deadline:

Wednesday, November 24, 2021

Point of Contact:

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Introduction

The Organization of PJM States, Inc. (OPSI), is a not-for-profit inter-governmental organization of 14 utility regulatory agencies with separate jurisdictions either wholly or partly in the service area of PJM Interconnection, L.L.C. (PJM), a regional transmission operator (RTO) with over 65 million customers. PJM operates the high-voltage electric transmission grid and wholesale electricity market within its service area. OPSI's activities include, but are not limited to, coordinating data, issue analyses and policy formulation related to PJM, its operations, its Independent Market Monitor (IMM), and other matters affecting OPSI members.

PJM procures electric generation capacity for its expected load in any given delivery year three years in advance through an annual Base Residual Auction (BRA). Recently PJM has implemented its Effective Load Carrying Capability (ELCC) methodology for valuing capacity of variable, limited duration, and combination resources (ELCC resources) for purposes of clearing those types of resources in the BRA.¹ The ELCC methodology is intended to both ensure that ELCC resources receive due compensation for the approximate capacity value they provide (and which varies over time with the evolving resource mix), and ensure that no ELCC resource is expected to provide more capacity than it is capable of providing.

Project Objective

OPSI seeks expert consulting services to assist in the identification of issues of interest to OPSI members regarding PJM's ELCC capacity valuation process as recently implemented and defined in PJM's tariff and other governing documents including PJM's Manuals. OPSI also seeks analysis of ELCC implementation and recommendations for participating in the

¹ To be specific about ELCC Resources, PJM defines the three primary categories of ELCC Resources and an Unlimited Resource as:

“Variable Resource” means a Generation Capacity Resource with output that can vary as a function of its energy source, such as wind, solar, run of river hydroelectric power without storage, and landfill gas units without an alternate fuel source. All Intermittent Resources are Variable Resources, with the exception of Hydropower with Non-Pumped Storage.

“Limited Duration Resource” means a Generation Capacity Resource that is not a Variable Resource, that is not a Combination Resource, and that is not capable of running continuously at Maximum Facility Output for 24 hours or longer. A Capacity Storage Resource is a Limited Duration Resource.

“Combination Resource” means a Generation Capacity Resource that has a component that has the characteristics of a Limited Duration Resource combined with (i) a component that has the characteristics of an Unlimited Resource or (ii) a component that has the characteristics of a Variable Resource.

“Unlimited Resource” means a generating unit having the ability to maintain output at a stated capability continuously on a daily basis without interruption. An Unlimited Resource is a Generation Capacity Resource that is not an ELCC Resource.

ELCC Resources Issue Charge internet access at:

<https://www.pjm.com/-/media/committees-groups/committees/pc/2021/20210420-special/20210420-item-02b-cirs-for-elcc-resources-issue-charge.ashx>

stakeholder ELCC methodology review and the annual regulatory review of the ELCC process by the Federal Energy Regulatory Commission (FERC).

Project Scope and Specifications

The consultant will be responsible for the following services:

- Provide an understanding of the current ELCC capacity valuation process including but not limited to:
 - How ELCC methodology impacts ELCC resources' ability to participate and recover revenue through the BRA;
 - The hierarchical relationship and calculation of ELCC portfolio Unforced Capacity (UCAP), ELCC class UCAP, and ELCC class rating factors;
 - The methodology, assumptions, inputs and procedures PJM uses in calculating ELCC values;
 - PJM's adjusted class average methodology and its use of the "Delta Method" for allocating ELCC portfolio UCAP among ELCC classes;
 - Impacts of ELCC upon other areas of PJM operations and markets including transmission planning and energy and ancillary services markets; and
 - The substance and process of the ELCC stakeholder review and the annual FERC review; and
- Provide analysis of ELCC implementation and its impacts on PJM markets and reliability including:
 - ELCC class ratings for 2023/24 BRA (posted by PJM on July 22, 2021);
 - Applicable data used in PJM calculation of ELCC class ratings (posted by PJM on August 13, 2021);
 - PJM's July 2021 ELCC Report and its associated data files on:
 - Replications Loss of Load Expectation (LOLE)
 - Load Scenarios
 - Available Unlimited Thermal Scenarios
 - 200CPX2² hours for the July 2021 ELCC Results
 - Weather Variables;
 - Relevant FERC filings made, or information posted, by PJM during the course of the consultancy; and
 - Whether the ELCC model is achieving its stated purpose of valuing and compensating capacity resources as accurately as practicable?
- Identify and analyze issues of interest to OPSI members, including:
 - To ensure that ELCC resources cannot offer capacity that they cannot physically deliver, Capacity Value is capped at the lesser of UCAP or a resource's Capacity Injection Rights (CIRs). Are sufficient CIRs being awarded to these resources to maximize their appropriate capacity value?
 - Is there evidence that the adjusted class average ELCC approach, as opposed to the marginal ELCC approach advocated by the IMM, distorts price signals for

² See PJM Manual 21a, Section 3.2.

entry of new capacity resources? If so, what effects is this having on reliability in the capacity market?

- Distributed energy resources (DER) that do not offer into the capacity market will likely affect the true capacity value of other DER that do offer capacity in the PJM wholesale markets. Does PJM have sufficient visibility into distribution-interconnected DER on its system so as to adjust its ELCC model to align the calculated capacity value with the true capacity value of DER offering capacity into PJM's wholesale markets? Do these non-offering resources have a substantial effect on ELCC values for resources which offer into PJM markets?
- Contrast between assumed versus actual dispatch patterns of limited duration resources, including energy storage resources. Do batteries tend to provide regulation services rather than energy in times when supply is tight?
- Examination of PJM's resource mix forecast. Does it provide sufficient accuracy to determine ELCC portfolio and class values?
- Provide recommendations for OPSI's potential participation in the stakeholder ELCC methodology review and the annual FERC review of ELCC, scheduled to start in the summer of 2022, including but not limited to recommended improvements upon any of the issues of interest to OPSI members (see above).
- Provide written documents supporting Consultant's recommended changes to PJM's tariff and other governing documents that are adopted by OPSI to be filed with the FERC.

OPSI proposes a maximum six (6) month term of engagement with an option to renew for an additional term at OPSI discretion. The work on the project will begin no later than Monday, January 31, 2022. The successful candidate will provide non-binding recommendations and other advice and assistance to OPSI.

Project Deliverables

Project deliverables may include written reports, summaries, memoranda, or recommendations from Consultant to OPSI, presentations delivered by Consultant to and for OPSI, or meetings between Consultant and OPSI inclusive of teleconference or webinar meetings. Based on both the relevant PJM stakeholder process and FERC schedules, an agreed-upon project schedule with deadlines for such deliverables will be determined at a later date. Consultant and OPSI will work cooperatively to request a project schedule that will enable Consultant to meet any set deadlines.

Proposal Bidding Requirements

Project Proposal Expectations

The OPSI Board of Directors shall award the contract to the proposal that best accommodates the various project requirements. OPSI reserves the right to award any contract prior to the proposal deadline stated below or prior to the receipt of all proposals, award the contract to more than one candidate, and refuse any proposal or contract without obligation to either OPSI or to any candidate offering or submitting a proposal.

Deadline to Submit Proposal

All proposals must be received by OPSI no later than 5:00 p.m. ET, close of business on Wednesday, November 24, 2021, for consideration in the project proposal selection process. All questions about this RFP must be submitted no later than Monday, November 15, 2021.

Proposal Selection Criteria

Only those proposals received by the stated deadline will be considered. All proposals, submitted by the deadline, will be reviewed and evaluated based upon information provided in the submitted proposal. In addition, consideration will be given to cost and performance projections. The following criteria will be given considerable weight in the proposal selection process:

- The experience of the candidate;
- The degree to which the candidate possesses a detailed understanding of RTO capacity procurement and resource adequacy;
- An existing body of work demonstrating high competency and an ability to timely deliver proposed services;
- The candidate's ability to provide and deliver qualified personnel having the knowledge and skills required to execute the proposed services in the scope of work identified above effectively and efficiently;
- Ability to provide references who can assert the candidate's general competency to deliver and the ability to foster a good working relationship with the prospective consulting candidate; and
- The expected level of compensation.

Submission Guidelines and Requirements

The following submission guidelines and requirements apply to this RFP:

- Candidate must include the following background information:
 - Name(s)
 - Address
 - Contact information (and preferred method of communication)
 - Legal form (e.g. sole proprietor, partnership, corporation)
 - Date company formed
 - Description of company in terms of size, range and types of services offered and clientele
 - Organization chart showing key personnel that would provide services to OPSI
 - Evidence of established track record for providing services and/or deliverables that are comparable with the subject of this proposal
- Candidate must identify any current affiliation or business interest it has with any PJM stakeholder including but not limited to PJM Members and any other potential conflicts of interest;
- A fixed-fee price proposal must indicate an overall price for the project as well as an estimated number of hours for project completion. Anticipated terms and scheduling for Consultant payment include:
 - OPSI's obligation to pay Consultant for the performance of services related to the project will not exceed an agreed upon fixed fee amount.

- Unless provided otherwise by written agreement of both parties, Consultant shall pay for all expenses it incurs in performing services related to the project, including but not limited to travel and out of pocket expenses.
- Consultant shall submit monthly invoices to OPSI in sufficient detail to support the services provided during the previous month. OPSI will agree to pay those invoices within 30 days of receipt, the total of which shall not exceed an agreed-upon fixed fee amount for the project.
- Proposals must be signed by a representative authorized to commit the candidate's company;
- If candidate has a standard contract or set of terms and conditions, please submit them with the proposal
 - All terms and conditions will be subject to negotiation; and
- Proposals must remain valid for a minimum period of 30 days.

OPSI will evaluate submittals and, if necessary, request follow-up information and interviews. OPSI expects to make a final selection or decision by Wednesday, December 22, 2021.

Project Terms

The following terms will apply to any agreement entered into pursuant to this RFP:

- The Consultant agrees to work as an independent contractor and not an employee of OPSI;
- The Consultant will maintain adequate liability insurance for all work done for OPSI and will pay all taxes incident to the performance of the Consultant work;
- The Consultant will conduct work with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices;
- The Consultant will observe sound management practices and employ appropriate technology to ensure the secure and safe retention and storage of information created or generated through work for OPSI. All information and other documents created or obtained during the course of the Consulting work shall be the sole and exclusive property of OPSI. Further, upon written request of OPSI all information will be turned over to OPSI and Consultant will certify it has not retained any copies of OPSI documents and information;
- To the extent permissible by law, the Consultant shall preserve in strict confidence any information, reports, or documents obtained, assembled, or prepared in connection with the performance of services related to the project;
- The Consultant will not use any subcontractors to provide consulting services to OPSI without prior written approval of OPSI;
- The Consultant confirms there are no prior or existing clients with conflicts of interest to OPSI or its members and agrees to hold OPSI interest paramount and strictly avoid any conflicts of interest when handling or considering any work outside of the OPSI consulting work;
- The Consultant will abide by all state and federal laws, regulations and rules when providing services to OPSI including but not limited to anti-discrimination, employment and harassment laws; and

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- The Consultant agrees any disputes or issues regarding Consultant services and the related contract and agreements shall be governed by the laws of Delaware and Consultant should be prohibited from initiating any action against OPSI outside the venue of the state of Delaware.